

**UC/DOE Approved Contract Modifications to the October 1997
Work Smart Standards (WSS) Set in Appendix G**

Item No.	Changes to WSS	Date Appendix G Modified
1	Replaced “LANL LPR Management of Operations (to be developed)” with “LPR 240-01-00.1, Facility and Operating Limits and Configuration (Formality of Operations)”	09/09/98
2	Replaced “DOE-STD-1020-94, Natural Phenomena Hazard Design and Evaluation Criteria for DOE Facilities” with “DOE Order 420.1, Facility Safety, paragraphs 4.4 through 4.4.6, and its implementing guide “Interim Guidelines for the Mitigation of Natural Phenomena Hazards for DOE Nuclear Facilities and Non-Nuclear Facilities	09/09/98
3	Adopted “U.S. Air Force Regulation AFR 50-36, dated March 15, 1984. Vol. 1, Combat Arms Training and Maintenance Program Management, Chapter Facility Criteria, 2-6.b.(b)1, including figures 2-11 and 2-6b(2), and Table 2-1 as applicable to the M-79 grenade launcher.”	09/09/98
4	Packaging and Transportation: <ul style="list-style-type: none"> • Adopted “DOE Order 5610.12, Packaging and Off-Site Transportation of Nuclear Components, and Special Assemblies Associated with the Nuclear Explosive and Weapon Safety Program: • Adopted “LIR 405-10-01.0, Packaging and Transportation, Sections 6.1 (intra-site) and 6.3 (on-site), issued June 10, 1998” 	09/09/98
5	Adopted DOE Order 4330.4B, Maintenance Management Program, Chapter 2, Guidelines for the Conduct of Maintenance of DOE Nuclear Facilities	12/21/98
6	Adopted the following Standards for Bio-Safety and Animal Use: <ul style="list-style-type: none"> • “Bio-safety in Microbiological and Biomedical Laboratories,” U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention and National Institutes of Health, 3rd Edition, May 1993 • Title 42 CFR Part 72 - Interstate Shipment of Etiological Agents. • 9 CFR Chapter 1, Section 2.3.1 Institutional Animal Care and Use Committee • Policy on Humane Care and Use of Laboratory Animals, Public Health Service, National Institutes of Health, Revised September, 1986, Reprinted March 1996. • Guide for the Care and Use of Laboratory Animals, National Research Council, International Standard Book Number 0-309-053-3 	12/21/98

UC/DOE Approved Contract Modifications to the October 1997 Work Smart Standards (WSS) Set in Appendix G

Item No.	Changes to WSS	Date Appendix G Modified
7	<ul style="list-style-type: none"> • Replaced the WSS Citation LANL-ER-SOP-04.01, RO “Drilling Methods and Drill Site Management,” Sections 2.0 and 6.0 with the following national consensus standards issued by the American Petroleum Institute: <ul style="list-style-type: none"> - API Recommended Practice for Installation, Maintenance, and Operation of Internal-Combustion Engines. API RP7C-11F, Fifth Edition, November 1, 1994 - API Recommended Practice for Inspection, Maintenance, Repair and Remanufacturing of Hoisting Equipment, API RP8B, Sixth Edition, December 1997, effective May 1, 1998. - API Specification for Oil Field Chain and Sprockets. API SPEC 7F, Fifth Edition, October 1, 1993 - API Recommended Practice on Application, Care, and Use of Wire Rope for Oil Field Service. API RP9B, Ninth Edition, May 30, 1986, reaffirmed 1992. 	12/21/98
8	<p>Revised WSS to address improvements in the area of Fire Protection</p> <ul style="list-style-type: none"> • Replaced three separate WSS citations with a single integrated reference—“LIR 402-910-01.0, Laboratory Fire Protection Program, Section 6.1.” The three separate WSS citations to be replaced are: <ul style="list-style-type: none"> - To be developed—“LANL standard establishing dollar-value limits above which property protection systems/measures must be provided.” - To be developed—“LANL standard for periodic fire-protection risk analysis of facilities.” - Life Safety Interpretation Memo, FSS-21-95-351, October 31, 1995 • Deleted “Factory Mutual Data Sheets (FMDs)” • Replaced “National Fire Protection Association (NFPA) Standards, including 101, “Life Safety Code” with “National Fire Protection Association (NFPA) Codes and Standards 	12/21/98
9	Adopted “LA-WSS 402-870-01, LANL Ergonomics Standard”	02/05/99
10	Adopted DOE Order 440.1A, Sections 6,7,8, of Attachment 2 (Contractor Requirements Document of Worker Protection Management for DOE Federal and Contractor Employees)	02/05/99

UC/DOE Approved Contract Modifications to the October 1997 Work Smart Standards (WSS) Set in Appendix G

Item No.	Changes to WSS	Date Appendix G Modified
11	Replaced “ANSI C2-1997, National Electrical Code” with “ANSI C2-1999, National Electrical Safety Code”	02/05/99
12	Replaced “DOE Order 5480.25, Safety of Accelerator Facilities, Sections 9f-9j, and 10 with “DOE Order 420.2, Safety of Accelerator Facilities, Sections 3c, Exclusions and Attachment 1a, 1b, 1c, 1d, and 1g”	06/14/99
13	Replaced “DOE Order 5700.6C, Quality Assurance” with “DOE Order 414.1, Quality Assurance”	06/14/99
14	<p>Editorial Changes:</p> <ul style="list-style-type: none"> • Changed “ANSI B31.1, Power Boilers (most recent edition) to “ANSI B31.1-1995, Power Piping” • Changed “ANSI C2-1999, National Electrical Safety Code” to “ANSI/IEEE C2-1999, National Electrical Safety Code” • Changed “ANSI Z385.1-1990, Emergency Shower and Eyewash Equipment, except for Paragraphs 4.7.1, 5.5.1, 7.5.1, 9.5.1, and Appendix A, paragraph A.1” to “ANSI 358.1-1990, Emergency Shower and Eyewash Equipment, except for paragraphs 4.7.1, 5.5.1, 7.5.1, 9.5.1, and Appendix A, paragraph A.1” • Changed “ASME Boiler and Pressure Vessel Code (most recent edition)” to “ANSI/ASME Boiler and Pressure Vessel Code, 1995 edition” • Changed “INCZ (ASHRAE) 61.1989, Ventilation for Acceptable Indoor Air Quality” to “ANSI/ASHRAE 62-1989, Ventilation for Acceptable Indoor Air Quality” • Changed “Manual on Uniform Traffic Control Devices (MUTCD)” to “Manual on Uniform Traffic Control Devices (MUTCD), 1988 edition” • Changed “Uniform Building Code (UBC)” to “Uniform Building Code (UBC), 1997 Edition” • Changed “New Mexico State Highway and Transportation (NMSH&T) Specification for Bridge and Road Construction” to “New Mexico State Highway and Transportation (NMSH&T) Standard Specifications for Highway Bridge Construction, 1994 Edition” • Changed “ANSI N43.3, 1993, Definitions, Sections 4.1, 5.1, 5.1.2, 5.1.4, 5.1.6.3, 5.1.5.2, 5.1.5, 7, 9.1, 9.4” to “ANSI N43.3, 1993, Definitions, Section 4.1, 5.1, 5.1.2, 5.1.4, 5.1.6.3, 5.1.5.2, 5.1.5.7, 9.1, 9.4” 	06/14/99

**UC/DOE Approved Contract Modifications to the October 1997
Work Smart Standards (WSS) Set in Appendix G**

Item No.	Changes to WSS	Date Appendix G Modified
15	Replaced DOE Order 440.1 Attachment 1, Paragraph 3, Fire Arms Safety; Paragraph 6, Pressure Safety Requirements; and Attachment 2, Paragraph 13, Construction Safety, with DOE Order 440.1A, Attachment 2, Section 14, Construction Safety; Attachment 2, Section 16, Firearms Safety; Attachment 2, Section 18, Industrial Hygiene; Attachment 2, Section 19, Occupational Medicine; Attachment 2, Section 20, Pressure Safety; and Attachment 2, Section 22, Suspect and Counterfeit Item (S/CI) Controls.	09/23/99
16	Replace LPR 240-01-00.1, Facility and Operating Limits and Configuration (Formality of Operations), with LPR 240-01-00.2, Facility and Operating Limits and Configuration (Formality of Operations)	01/13/2000
17	Replaced DOE Order 414.1, Quality Assurance with DOE Order 414.1A, Quality Assurance	02/29/2000
18	Replaced LANL LIR 405-10-01.0 Packaging and Transportation, Sections 6.1 (intra-site) and 6.3 (on-site); with LANL LIR 405-10-01.1 Packaging and Transportation, Sections 6.9 (intra-site) and 6.11 (on-site)	02/29/2000
19	Replaced DOE Order 460.1A, Packaging and Transportation Safety, Attachment 1, Contractor Requirements Document, Paragraphs 2 and 6; with DOE Order 460.1A, Packaging and Transportation Safety, Attachment 1, Contractor Requirements Document.	02/29/2000
20	Adopted DOE O 420.1 Facility Safety Attachment 2 conductor Requirements Document (CRD) in its entirety with exceptions as stated below. <ol style="list-style-type: none"> 1. Paragraph (section) 4.2, 2nd paragraph (4) of the CRD 2. Paragraph (section) 4.2.1.9 of the CRD 3. Paragraph (section) 4.2.2.4 of the CRD 4. Paragraph (section) 4.3.2d(1) 5. Paragraph (section) 4.3.2d(2), 3rd sentence 	05/01/00
21	Adopted ANSI/ANS-8-22-1997, "Nuclear Criticality Safety Based on Limiting and Controlling Moderators"	05/01/00
22	Adopted ANSI/ANS-8-23-1997, "Nuclear Criticality Accident Emergency Planning and Response"	05/01/00
23	Replaced ANSI/IEEE C2-1999, National electrical Safety code with ANSI/IEEE C2-1997, National	05/01/00

**UC/DOE Approved Contract Modifications to the October 1997
Work Smart Standards (WSS) Set in Appendix G**

Item No.	Changes to WSS	Date Appendix G Modified
	Electrical Safety Code	
24	Replaced National Fire Protection Association (NFPA) Codes and Standards with National Fire Protection Association (NFPA) National Fire Codes (most recent addition), with the exception of NFPA 70, National Electrical Code	05/01/00
25	Adopted NFPA 70 National Electrical Code, 1999	05/01/00
26	Replaced DOE O 5820.2A, Radioactive Waste Management, and replace with DOE O 435.1, Radioactive Waste Management.	04/13/01
27	Adopted DOE M 435.1, Radioactive Waste Management Manual, except for chapter III, paragraph N. (1) and chapter IV, paragraph N. (1).	04/13/01
28	<p>Adopted DOE STD 3009-94, chg. 1 2000 in its entirety with exception, as noted below:</p> <ol style="list-style-type: none"> 1. Pg. 15 and Pg. 56 - The acceptance of DOE-STD-3009-94 does not mean the acceptance of DOE O 5480.28, "Natural Phenomena Hazards Mitigation". 2. Pg. 40 Table 3-1, Example process hazard analysis worksheet, is an example only and not to be considered a required table for performing Hazard Analysis. 3. Pg. 41 Table 3-2, Hazard Analysis worksheet based on failure modes and effects analysis, is an example only and not to be considered a required table for performing Hazard Analysis. 4. Pg. 50 figure 3-3, a three by three likelihood and consequence-ranking matrix, is an example only and not to be considered a required matrix for performing Hazard Analysis. 5. Pg. 51 Table 3.3, Qualitative severity classification table, is an example only and not to be considered a required table for performing Hazard Analysis. 6. Pg. 51 Table 3.4, Qualitative likelihood classification table, is an example only and not to be considered a required table for performing Hazard Analysis. 7. Pg. 55 Table 3.5, Qualitative ranking, is an example only and not to be considered a required table for performing Hazard Analysis. 8. Pg. 75 and Pg. 77 – The acceptance of DOE-STD-3009-94 does not mean the acceptance of DOE O 5480.24, "Nuclear Criticality Safety". 	12/17/01

**UC/DOE Approved Contract Modifications to the October 1997
Work Smart Standards (WSS) Set in Appendix G**

Item No.	Changes to WSS	Date Appendix G Modified
	<p>9. Pg. 101 – The acceptance of DOE STD-3009-94 does not mean the acceptance of DOE O 5480.19, “Conduct of Operations Requirements for DOE Facilities”.</p> <p>10. If both DOE approval authority and the Owning Division Director agree, a variance may be granted on the use of DOE-STD-3009-94.</p>	
29	Replace DOE O 5610.12, “Packaging and Offsite Transportation of Nuclear Components and Special Assemblies” associated with the Nuclear Explosive and Weapon Safety Program with DOE O 461.1 “Packaging and Transfer or Transportation of Materials of National Security Interest.”	04/13/01
30	Replace LIR 402-910-01.0 Laboratory Fire Protection Program, section 6.1, with LIR 402-910-01.3 Laboratory Fire Protection Program, Section 6.1.	04/13/01
31	Replace DOE O 151.1, Comprehensive Emergency Management System with DOE O 151.1A, Comprehensive Emergency Management System.	04/13/01
32	Adopt LIR 404-00-05.2, Managing Radioactive Waste, paragraph 7.3.2, Storage to Facilitate Treatment.	07/09/01
33	Replace Manual on Uniform Traffic Safety Control Devices (MUTCD) 1998 Edition with Manual on Uniform Traffic Safety Control Devices (MUTCD) latest revision.	11/30/01
34	Replace New Mexico State Highway and Transportation (NMSH&T) Standard Specifications for Highway Bridge Construction, 1994 Edition with New Mexico State Highway and Transportation (NMSH&T) Standard Specifications for Highway Bridge Construction, latest revision.	11/30/01
35	Adopt DOE/AL SD 5610.12, Packaging and Offsite Transportation of Nuclear Components, and Special Assemblies Associated with the Nuclear Explosive and Weapon Safety Program.	11/30/01
36	Replace DOE M 435.1 with exceptions with DOE M 435.1, Change 1, except for chapter 11, paragraph N. (1) and chapter IV, paragraph N. (1).	10/30/01
37	Replace DOE O 414.1A, Quality Assurance with DOE O 414.1A, Change 1, Quality Assurance.	10/30/01
38	Replace DOE O 425.1, Startup and Restart of Nuclear Facilities, Chg 1: 10-26-95, with exception of the DOE O 5480.19 citation with DOE O 425.1B, Startup and Restart of Nuclear Facilities, Contractors Requirements Document Section.	10/30/01

**UC/DOE Approved Contract Modifications to the October 1997
Work Smart Standards (WSS) Set in Appendix G**

Item No.	Changes to WSS	Date Appendix G Modified
39	Replace "NFPA 70 National Electrical Code, 1999" with "NFPA 70 National Electrical Code, 2002"	02/24/03
40	Adopted "DOE AL SD 425.1B, Rev. 1, Startup and Restart of AL Facilities/Activities"	02/24/03
41	Adopt "DOE M 14.1-1B, Interface with the Defense Nuclear Facility Board"	02/24/03
42	Replace "ASHRAE 62-1989, Ventilation for Acceptable Indoor Air Quality with ASHRAE 62-1999, Ventilation for Acceptable Air Quality"	02/24/03
43	Replace ANSI Z358.1-1990 (with exceptions) on shower/eyewash: Change to ISEA/ANSI Z358.1-1998 with the following exceptions/clarifications: (a) tepid requirements applies only to new installations and (b) no weekly activation requirement (Paragraphs involved: 4.6.6, 4.7.2, 5.5.2, 7.4.6, 7.5.2, 8.4.4, 9.4.5, 9.5.2, etc.)."	02/24/03
44	Replace ASME Boiler and Pressure Vessel Code-1995 with ASME Boiler and Pressure Vessel Code – Latest Revision.	02/24/03
45	Replace ASME B31.1, Power Piping-1995 with ASME B31.1-2001, Power Piping	02/24/03
46	Replace "DOE Order 4330.4B chapter 2 with DOE Order 433.1, Maintenance of Nuclear Facilities, Attachment 1, Contractor Requirements Document (CRD)"	02/24/03
47	Replace "National Fire Protection Association (NFPA) National Fire Codes (most recent addition) with the exception of NFPA 70, National Electrical Code" with "National Fire Protection Association (NFPA) National Fire Codes (most recent edition) with the exception of NFPA 70, National Electrical Code; NFPA 5000 Building Code not adopted."	02/24/03
48	Adopt DOE Notice 231.1 "Environment, Safety and Health Reporting Notice"	02/24/03
49	Replace "DOE Order 5480.19, Chg 1 Conduct of Operations Requirements for DOE Facilities" in Appendix G with "DOE Order 5480.19, Chg 2 Conduct of Operations Requirements for DOE Facilities" and put this change in the WSS Set of Appendix G.	03/17/03
50	Replace 'Uniform Building Code (UBC) 1997 Edition" with "IBC International Building Code, latest edition, as amended by the LANL Engineering Standards Manual"	03/17/03